

ELECTRONIC INFORMATION DISCLOSURE STATEMENT

Electronic Version v18

Stylesheet Version v18.0

Title of Invention	METHOD AND STRUCTURE FOR IMPROVING CMOS DEVICE RELIABILITY USING COMBINATIONS OF INSULATING MATERIALS
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Application Number :

Confirmation Number:

First Named Applicant: Haining Yang

Attorney Docket Number: FIS920040194US1

Art Unit:

Examiner:

Search string: (5851893 or 6724053).pn

US Patent Documents

Note: Applicant is not required to submit a paper copy of cited US Patent Documents

init	Cite.No.	Patent No.	Date	Patentee	Kind	Class	Subclass
JmJ	1	5851893	1998-12-22	Gardner et al.		438	305
JmJ	2	6724053	2004-04-20	Divakaruni et al		257	402

Signature

Examiner Name	Date
T. M. Thomas	10-31-05

INFORMATION DISCLOSURE CITATION
(Use several sheets if necessary)

NOV 01 2004

PATENT & TRADEMARK OFFICE

ATTY DOCKET NO.
FIS920040194US1

APPLICATION NO.
10/711,897

YANG ET AL.

FILING
10-12-04

GROUP ART
2822

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE

U.S. PATENT APPLICATION PUBLICATIONS

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FOREIGN PATENT DOCUMENTS

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						YES	NO

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

JmJ	1	T. G. Gerence et al., "The Combined Effects of Deuterium Anneals and Deuterated Barrier-Nitride Processing on Hot-Electron Degradation in MOSFET's;" IEEE Transactions of Electron Devices, Vol. 46, No. 4, April 1999; pages 747 - 753.
JmJ	2	J. H Stathis; "Reliability limits for the gate insulator in CMOS technology;" IBM J. Res & Dev. Vol. 46 No. 2/3 March/May 2002; pages 265 - 286.

EXAMINER
T. M. Thomas

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OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

1m1	3	T. H. Ning; "Why BiCMOS and SOI BiCMOS?;" IBM J. Res & Dev. Vol. 46 No. 2/3 March/May 2002; pages 181 - 186..

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Sheet 1 of 3

FORM PTO 1449 (REV 2-32)	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	File No. FIS920040194US1	Serial No. 10/711,897
		Applicant(s): Haining Yang et al.	
		Filing Date: 10/12/2004	Group: 2811 2822

U.S. PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
JMJ	1	4,851,370	07/25/1989	Doldan et al.	437	225	12/28/1987
	2	5,506,169	04/09/1996	Guldi	437	70	10/20/1994
	3	5,538,916	07/23/1996	Kuroi et al.	437	72	04/20/1994
	4	5,580,815	12/03/1996	Hsu et al.	437	69	02/22/1994
	5	5,620,919	04/15/1997	Godinho et al.	438	230	03/30/1995
	6	5,633,552	05/27/1997	Lee et al.	310	311	07/10/1994
	7	5,668,403	09/16/1997	Kunikiyo	257	639	09/03/1996
	8	5,707,889	01/13/1998	Hsu et al.	437	69	05/13/1996
	9	5,891,798	04/06/1999	Doyle et al.	438	624	12/20/1996
	10	5,908,312	06/01/1999	Cheung et al.	438	287	05/28/1997
JMJ	11	5,985,737	11/16/1999	Wu	438	448	03/04/1998

U.S. PATENT APPLICATION PUBLICATIONS							
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FOREIGN PATENT DOCUMENTS							
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OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Patents, etc.)							

Examiner T. M. Thomas	Date considered 10-31-05
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Sheet 2 of 3

FORM PTO 1449 (REV 2-32) U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)	File No. RIS920040194US1	Serial No. 10/711,897
	Applicant(s): Haining Yang et al.	
	Filing Date: 10/12/2004	Group: -2811 2822

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
JmJ	12	5,633,202	05/27/1997	Brigham et al.	438	763	06/06/1996
	13	5,847,463	12/08/1998	Trivedi et al.	257	751	08/22/1997
	14	6,040,619	03/21/2000	Wang et al.	257	649	09/25/1997
	15	6,046,494	04/04/2000	Brigham et al.	257	640	01/31/1997
	16	6,146,975	11/14/2000	Kuehne et al.	438	437	07/10/1998
	17	6,214,733 B1	04/10/2001	Sickmiller	438	691	11/17/1999
	18	6,228,777 B1	05/08/2001	Arafa et al.	438	740	06/08/1999
	19	6,261,924 B1	07/17/2001	Mandelman et al.	438	430	01/21/2000
	20	6,306,742 B1	10/23/2001	Doyle et al.	438	591	01/05/1999
JmJ	21	6,395,610 B1	05/28/2002	Roy et al.	438	354	06/20/2000

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Examiner

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Date considered

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Sheet 3 of 3

FORM PTO 1449 (REV 2-32)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		File No. FIS920040194US1		Serial No. 10/711,897	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)				Applicant(s): Haining Yang et al.			
				Filing Date: 10/12/2004		Group: 281+ 2822	
U.S. PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
TmJ	22	6,436,848 B1	08/20/2002	Ramkumar	438	777	03/30/1999
	23	6,476,462 B2	11/05/2002	Shimizu et al.	257	627	12/07/2000
	24	6,509,230 B1	01/21/2003	Roy et al.	438	261	06/20/2000
	25	6,515,351 B2	02/04/2003	Arafa et al.	257	644	02/28/2001
	26	6,573,172 B1	06/03/2003	En et al.	438	626	09/16/2002
	27	6,825,529 B2	11/30/2004	Chidambarras et al.	257	336	12/12/2002
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Sheet 1 of 5

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FIS920040194US1Serial No.
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Applicant(s):

HAINING YANG, ET AL.

Filing Date:
10-12-04Group:
2822

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	1	4,851,370	07/25/1989	Deklan et al.	437	225	12/28/1987
	2	5,506,169	04/09/1996	Guldi	437	70	10/28/1994
	3	5,538,916	07/23/1996	Kuroi et al.	437	72	04/28/1994
	4	5,580,815	12/03/1996	Hsu et al.	437	69	02/22/1994
	5	5,620,919	04/15/1997	Godinho et al.	438	230	03/30/1995
	6	5,633,552	05/27/1997	Lee et al.	310	311	07/10/1994
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	8	5,707,889	01/13/1998	Hsu et al.	437	69	05/13/1996
	9	5,891,798	04/06/1999	Doyle et al.	438	624	12/20/1996
	10	5,908,312	06/01/1999	Cheung et al.	438	287	05/28/1997
	11	5,985,727	11/16/1999	Wu	438	448	03/04/1998

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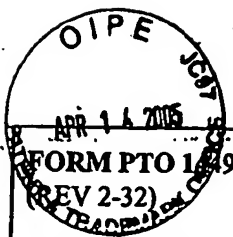
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	13	5,847,463	12/08/1998	Trivedi et al.	257	751	08/22/1997
	14	5,851,893	12/22/1998	Gardner et al.	438	305	07/18/1997
	15	6,040,619	03/21/2000	Wang et al.	257	649	09/25/1997
	16	6,046,494	04/04/2000	Brigham et al.	257	640	01/31/1997
	17	6,146,975	11/14/2000	Kuehne et al.	438	437	07/10/1998
	18	6,214,733 B1	04/10/2001	Sickmiller	438	691	11/17/1999
	19	6,228,777 B1	05/08/2001	Arafa et al.	438	740	06/08/1999
	20	6,261,924 B1	07/17/2001	Mandelman et al.	438	430	01/21/2000
	21	6,206,742 B1	10/23/2001	Doyle et al.	438	591	01/05/1999
	22	6,395,610 B1	05/28/2002	Roy et al.	438	354	06/20/2000

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	1	T. H. Ning, "Why BiCMOS and SOI BiCMOS?", IBM J. Res & Dev. Vol. 46 No. 2/3 March/May 2002, pages 181-186.
	2	T. G. Berence et al., "The Combined Effects of Deuterium Anneals and Deuterated Barrier Nitride Processing on Hot Electron Degradation in MOSFETs," IEEE Transactions of Electron Devices, Vol. 46, No. 4, April 1999, pages 747-753.

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3. H. Stathis, "Reliability limits for the gate insulator in CMOS technology," IBM J. Res. & Dev. Vol. 46 No. 2/3 March/May 2002, pages 265-286.

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